

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

OZKAN, *et al.*

Serial No.: 10/695,775

Filed: 30 October 2003

For: NANOSCALE HETEROJUNCTINOS AND METHODS OF  
MAKING AND USING THEREOF

Art Unit: 2813

Examiner: Harrison, Monica D.

Atty. Dkt: 034044.025 (2003-15-2)

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Mail Stop: AF**

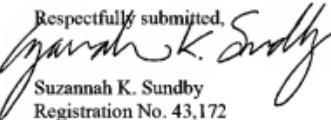
Dear Sir:

Applicants request review of the final rejection in the above-referenced application. No amendments are being filed with this request.

This Request is being filed with a Notice of Appeal.

The Review is requested for the reasons stated on the attached sheets.

I am the Attorney of Record.

Respectfully submitted,  
  
Suzannah K. Sundby  
Registration No. 43,172

Date: 30 June 2006  
SMITH, GAMBRELL & RUSSELL, LLP  
1850 M Street, N.W., Suite 800  
Washington, D.C. 20036  
Telephone: (202) 263-4332  
Fax: (202) 263-4352  
ssundby@sgrlaw.com

## REASONS FOR REVIEW REQUEST

### The Claimed Invention

The claimed invention is a heterojunction comprising at least one carbon nanotube and at least one nanostructure *covalently* connected, immobilized, attached, or affixed thereto for use in nanodevices, such as nanotransistors.

Dependent claims are directed to the type and dimensions of the nanotube, the type of nanostructure, methods of making the heterojunction, and nanodevices comprising the heterojunction.

### The Issues

Whether it is improper to modify a prior art disclosure in a manner which renders it inoperable for its intended purpose.

### The Law

If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

### The Facts

The primary reference used in the rejection under 35 U.S.C. 103(a) is Lieber et al. Lieber et al. discloses a nanotweezers for manipulating nanostructures. Lieber et al. does not disclose covalently attaching nanostructures to the nanotweezers. The secondary reference, Rueckes et al., discloses nanotube ribbons covalently bonded to a structure such as an interwoven fabric. The Examiner deems that it would have been obvious to modify Lieber et al. with the teaching of Rueckes et al. in order to covalently attach nanostructures to the nanotweezers in order to obtain the claimed invention.

Applicants assert that covalently attaching the nanostructures to be probed and manipulated by the nanotweezers to the nanotweezers would render the nanotweezers of Lieber et al. inoperable for its intended purpose. Since there is no suggestion or motivation to make a proposed modification, where the proposed modification would render the modified prior art invention unsatisfactory for its intended purpose, a *prima facie* case of obviousness has not been established. Since none of the cited prior art references, alone or in combination, teach or

suggest covalently attaching a nanostructure to a nanotube to obtain a heterojunction according to the present invention, the claimed invention is unobvious.

Therefore, Applicants respectfully request that the review panel decide Finding 2 or Finding 3. If the review panel decides Finding 2, Applicants would appreciate a proposed amendment if appropriate.